

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB116NM

Site Name: Shallow

Precipitation or Climate Zone: 10 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on gently sloping to undulating terrain. Slopes vary from 1 to 15 percent. Elevations range from 6,000 to 7,300 feet above sea level.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	6,000	7,300
Slope (percent)	1	15
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Low to very high.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid May too early or mid September. Average annual air temperatures are to degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given ecological site, which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm/cool-season dominants are present.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	102	148
Freeze-free period (days):	119	174
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

			Period	
Station ID	<u>290640</u>	Location	<u>Augustine 2E, NM</u>	From: <u>05/01/26</u> To: <u>07/31/00</u>
Station ID	<u>296812</u>	Location	<u>Pietown 19NE, NM</u>	From: <u>09/01/88</u> To: <u>07/31/00</u>
Station ID	<u>297180</u>	Location	<u>Quemado, NM</u>	From: <u>08/01/15</u> To: <u>07/31/00</u>

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES**Narrative:**

Surface textures are typically medium and the soils are usually gravelly, cobbly, or stony throughout the profile. They are shallow to very shallow over an indurate layer such as caliche or unweathered limestone bedrock. Permeability is moderate to rapid, but the available water-holding capacity is usually low.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Gravelly loam
3. Fine sandy loam
4. Clay loam
5. Very gravelly sandy loam
6. Very gravelly loam

Surface Texture Modifier:

1. Gravel
2. Cobble
3.

Subsurface Texture Group: Clay loam

Surface Fragments $\leq 3''$ (% Cover): 35 to 60

Surface Fragments $> 3''$ (% Cover): 15 to 35

Subsurface Fragments $\leq 3''$ (%Volume): 15 to 35

Subsurface Fragments $\geq 3''$ (%Volume): 35 to 60

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Somewhat excessively</u>
Permeability Class:	<u>Very Slow</u>	<u>Moderately rapid</u>
Depth (inches):	<u>5</u>	<u>20</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>4.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>13.00</u>
Soil Reaction (1:1 Water):	<u>6.6</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>3</u>	<u>6</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

This is a grassland site characterized by a mixture of warm/cool-season grasses. Dominants are likely to include blue grama, New Mexico feathergrass, and sideoats grama. Also characteristic are such species as needleandthread, little bluestem, galleta, bottlebrush squirreltail, sand dropseed, and spike muhly. Shrubs and half-shrubs may include juniper, Bigelow sagebrush, and winterfat. Substantial populations of forbs are not characteristic of the natural plant community.

Canopy Cover:

Trees	7 %
Shrubs and half shrubs	7 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	18
Bare ground	30
Surface gravel	35
Surface cobble and stone	5
Litter (percent)	12
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	255	489	723
Forb	21	40	59
Tree/Shrub/Vine	24	46	68
Lichen			
Moss			
Microbiotic Crusts			
Total	300	575	850

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	86 – 115	86 – 115
2	HENE2 HECO26	New Mexico Feathergrass Needleandthread	58 – 115	58 – 115
3	BOCU	Sideoats Grama	58 – 115	58 – 115
4	BOHI2	Hairy Grama	6 – 17	6 – 17
5	SCSC	Little Bluestem	29 – 58	29 – 58
6	LYPH MUWR	Wolftail Spike Muhly	29 – 58	29 – 58
7	ELEL5 PASM ACHY	Bottlebrush Squirreltail Western Wheatgrass Indian Ricegrass	29 – 58	29 – 58
8	PLJA	Galleta	6 – 29	6 – 29
9	SPCR	Sand Dropseed	6 – 29	6 – 29
10	BOER4	Black Grama	6 – 17	6 – 17
11	MUTO2 ARIST	Ring Muhly Threawn spp.	6 – 29	6 - 29

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	2FP	Other Perennial Forbs	6 – 29	6 – 29
13	2FA	Other Annual Forbs	6 – 17	6 - 17

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	PIED JUNIP	Pinyon Pine Juniper spp.	6 – 29	6 – 29
15	QUERC RHTR LYPA	Oak spp. Skunkbush Sumac Pale Wolfberry	6 – 17	6 – 17
16	ARBI3 KRLA2 GUSA2	Bigelow Sagebrush Winterfat Broom Snakeweed	6 – 29	6 - 29

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth CurvesGrowth Curve ID 0307NMGrowth Curve Name: HCPCGrowth Curve Description: Mixed warm/cool-season grassland w/shrubs and half-shrubs and forb components.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitats which support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, Merriam's kangaroo rat, white-throated woodrat, silky pocket mouse, sparrow hawk, Cassin's kingbird, chipping sparrow, plateau whiptail, short-horned lizard and prairie rattlesnake.

Where pinyon pine and juniper increase under conditions of site retrogression, mule deer, gray fox, pinyon mouse, and scrub jay utilize the site. Mourning dove and black-chinned sparrow use it to nest. The chestnut-collared longspur winters here and the common raven and prairie falcon hunt over this site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Lavodnas	C
Menefee	D
Persayo	D
Sandoval	D
Shadilto	D
Winona	D

Recreational Uses:

This site offers fair to good potential for hiking, horseback riding, nature observation, photography, camping, and picnicking. It offers good potential for pronghorn antelope hunting, and poor to fair opportunities for hunting mule deer.

A generally open landscape, dotted by shrubs and half-shrubs, provides natural beauty on this site.

Wood Products:

This site at its potential has little or no significant value for wood products.

Other Products:**Grazing:**

This site is suitable for grazing by most kinds and classes of livestock in all seasons of the year, but is poorly suited for continuous yearlong use if the natural potential vegetation is to be maintained. Occasional spring or fall deferment is especially critical for continued production of such grasses as New Mexico feathergrass and needleandthread. Summer rest is important if the production of sideoats grama and blue grama is to be sustained. Heavy prolonged use on a continuous basis will most likely result in a rapid decrease in cool-season grasses and a more gradual but eventually just as certain decrease in sideoats grama, winterfat, little bluestem, spike muhly, and blue grama. Advanced site deterioration may be typified by an increase of such plants as broom snakeweed, ring muhly, and threeawn spp. The site is also subject to invasion by woody plants such as rabbitbrush.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	3.6 – 4.7
75 – 51	4.5 – 6.7
50 – 26	6.5 – 11.5
25 – 0	11.5+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Some Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Most Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Some Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wolftail	Lycurus phleoides	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Most Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Indian Ricegrass	Achnatherum hymenoides	EP	U	U	P	P	P	U	U	U	D	D	D	U
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	P	P	P	U	U	U	D	D	D	U
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Some Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife

Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Oak spp.	Quercus spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: Catron, Socorro

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Socorro, Cibola, Sandoval Catron.

Characteristic Soils Are:

Lavodnas	Menefee
Persayo	Sandoval
Shadilto	Winona

Other Soils included are:

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Site Description Approval:

Author

Don Sylvester

Date

02/15/80

Approval

Durwood E. Ball

Date

03/27/80

Site Description Revision:

Author

Elizabeth Wright

Date

07/08/02

Approval

George Chavez

Date

12/16/02